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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/693,053 | FISKE, MICHAEL | |
| | Examiner | Art Unit | |
| | David Y. Jung | 2134 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-78.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>7/2004</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
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DETAILED ACTION

Allowable Subject Matter

Claims 1-78 are allowed. The following is an examiner's statement of reasons for allowance: As noted in the specification (especially at pages 1-4), the claimed inventions are meant to be within the situation of the permutations and non-autonomous dynamic orbit system. The prior art did not teach or suggest the particular features of the claims.

Applicant has noted regarding the prior art: Overall, up to this point in time, the use of non-autonomous dynamical systems applied to cryptography has not been proposed. While permutations have been utilized in cryptography for at least 75 years, these permutations stay fixed for a given key. Using a sequence of permutations with different lengths to reorder a sequence of information or states has not been proposed.

Each claim recites a sequence of permutations. Applicant has clearly defined the term "permutation." This term is specifically referred as that of the term used in the situation of non-autonomous dynamic orbit system. Further, the term "non-autonomous dynamic system" as used in the specification refers to the particular use of the sequence of permutations. See pages 1-4. In the system as used in each of the claim, in which permutations exist, at least one perturbator is assumed to be already present so as to use the permutations in the ways noted in the claims. Additional perturbators may be provided and used in additional ways. For this, note page 4: Non-autonomous

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dynamical orbit (NADO) cryptography is a process for encrypt-ing and decrypting information. The underlying process is a fast stream-like cipher that may be implemented efficiently in analog or digital hardware or software. The NADO process makes use of four novel concepts in cryptography: (1) A sequence of permutations which scrambles and spreads out the encrypted information; (2) A state generator built with a non-autonomous dynamical system to generate an un-predictable sequence of states; (3) One or more perturbators which over time change both the non-autonomous dynamical system and the sequence of permutations in a non-periodic way. (4) The use of the key to build the non-autonomous system and sequence of permutations. NADO uses a symmetric private key to generate the mathematical systems in (1), (2), and (3). Furthermore, NADO composes these mathematical systems in a unique way, creating an astronomical number of possibilities to check in a brute-force attack. The composition of these systems makes NADO unbreakable to a brute-force attack with current computer technology. The prior art did not teach or suggest the particular features of the claims.

Conclusion

Points of Contact

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(571) 273-8300, (for formal communications intended for entry)

Or:

(571) 273-3836 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Jung whose telephone number is (571) 272-3836 or Kambiz Zand whose telephone number is (272) 272-3811.

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David Jung

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a final horizontal stroke.

Patent Examiner

3/4/07